

User Guide

TouchLink™

TLP VIM

TouchLink Video Input Module



Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conserver les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentes dans la documentation utilisateur.

Éviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufzubewahren, damit Sie im Bedarfsfall leicht zugreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaución

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable components inside. To prevent the risk of fire, do not attempt to service this equipment by yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentation • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : l'essayer pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pinçés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation et de maintenance par du personnel qualifié. Aucun composant interne ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacez uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät würde für eine Verwendung mit einer Hauptstromleitung mit einem geraden (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der oben rechten Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdoose ziehen.

Schutz des Netzkabels • Das Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder anderer Gefahren bestehen.

Schlüsse und Öffnungen • Wenn das Gerät Schlüsse oder Löcher im Gehäuse aufweist, dienen diese zur Verhinderung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Lithium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de alimentación general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cable de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparación-mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. El interior no contiene piezas que el usuario deba acceder. Para evitar riesgos de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la potencia incorrecta. Colocar la batería en la potencia con el mismo tipo (o su equivalente) recomendado por el fabricante. Deschar las baterías usadas siguiendo las instrucciones del fabricante.

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

NOTE: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.
For more information on safety guidelines, regulatory compliances, EMI/EMF compliance, accessibility, and related topics.

Notational Conventions Used in this Guide

TIP: A tip provides a suggestion to make setting up or working with the device easier.

NOTE: A note draws attention to important information.

CAUTION: A caution warns of things or actions that might damage the equipment.

WARNING: A warning warns of things or actions that might cause injury, death, or other severe consequences.

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Trademarks

All trademarks mentioned in this guide are the properties of their respective owners.



Introduction

This section gives an overview of the TLP VIM, TouchLink™ Video Input Module describing its operation and features including connection and operation with the Extron line of TouchLink panels. Topics that are covered include:

- [About the TLP VIM](#)
- [Application Diagrams](#)

About the TLP VIM

The TLP VIM is a twisted pair transmitter for composite or S-video with audio, designed exclusively for use with compatible Extron TouchLink touchpanels. The TLP VIM has a very specific application to these touchpanels and is not intended to be used in other applications.

Compatible TLP touchpanel products have a single video input supporting AV signals via an MTP receiver built into the touchpanel. For installations where the video source is within 100 feet of the touchpanel, the TLP VIP provides a cost effective solution to transmit video and audio to the touchpanel.

Due to the limited range, the TLP VIM does not require skew or gain adjustments.

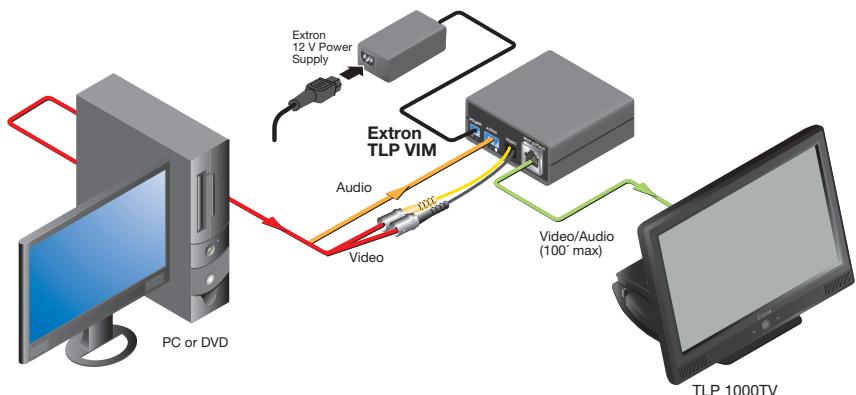
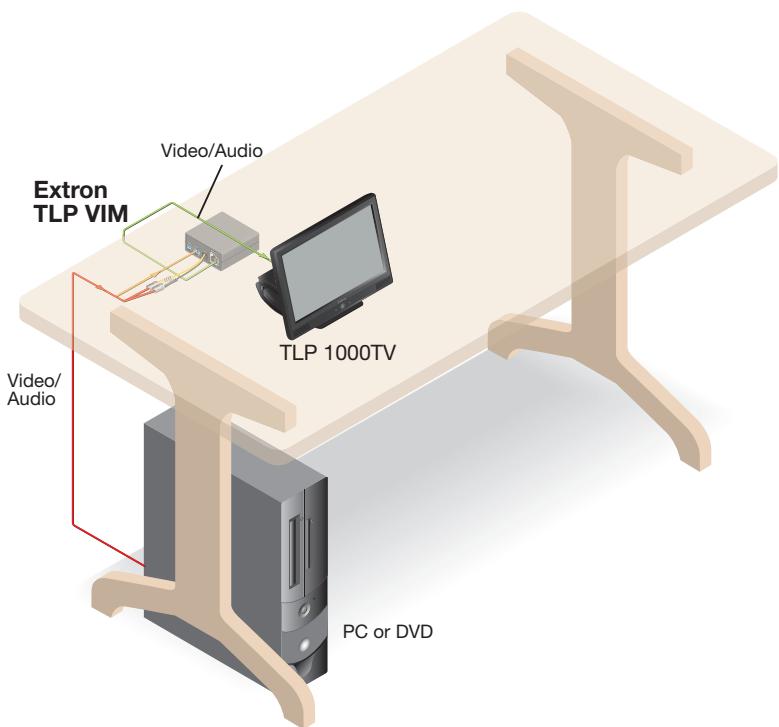


Figure 1. TLP VIM Application Diagrams

Installation and Operation

This chapter shows how to install and operate the TLP VIM Video Input Module.

Topics that are covered include:

- [Installation Overview](#)
- [Mounting the TLP VIM](#)
- [TLP VIM Front and Rear Panel Features](#)
- [Operation](#)

Installation Overview

To install and set up the TLP VIM, follow these steps:

1. Turn all equipment off. Make sure the video sources (DSS, cable boxes, PC, laptop, or other devices), the TLP VIM, and the touchpanel are turned off and disconnected from power sources.
2. Mount the TLP VIM, see "[Mounting the TLP VIM](#)", below.
3. Attach the cables, see "[TLP VIM Front and Rear Panel Features](#)" on [page 4](#).
4. Connect power cords and turn on the devices, see "[Operation](#)" on [page 6](#) .

Mounting the TLP VIM

The TLP VIM includes hook and loop fasteners so that it can be securely mounted on or under a table or podium near to the touchpanel.

Shut off all power to connected devices, then mount the TLP VIM as required.

TLP VIM Front and Rear Panel Features

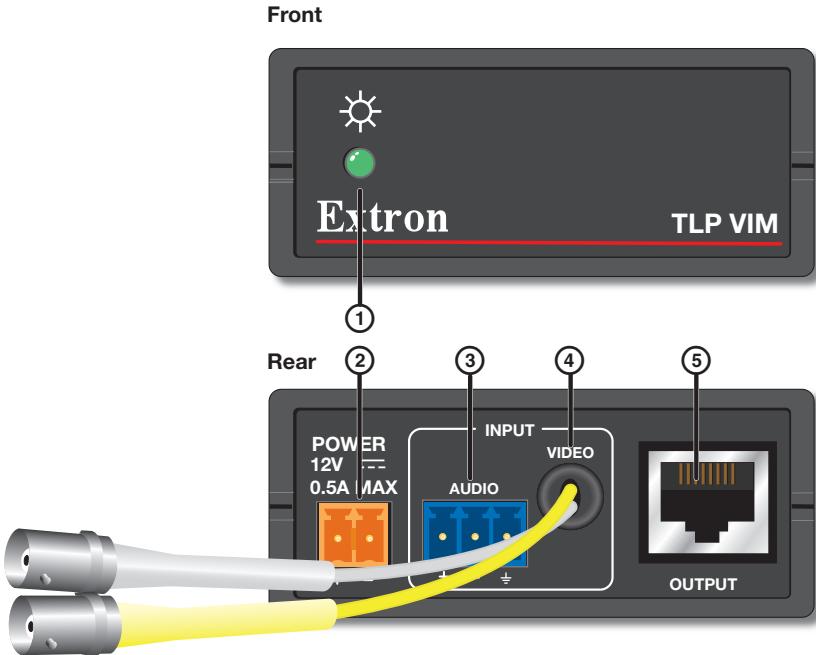


Figure 2. TLP VIM Front and Rear Panel

- ① **Front panel LED** – Single LED lights to indicate the TLP VIM is properly powered.
- ② **DC power input** – Single 2-pole, 3.5 mm, orange captive screw connector for connection of a 12 V power supply.
Use only the included power supply or an Extron authorized power supply to power the TLP VIM.

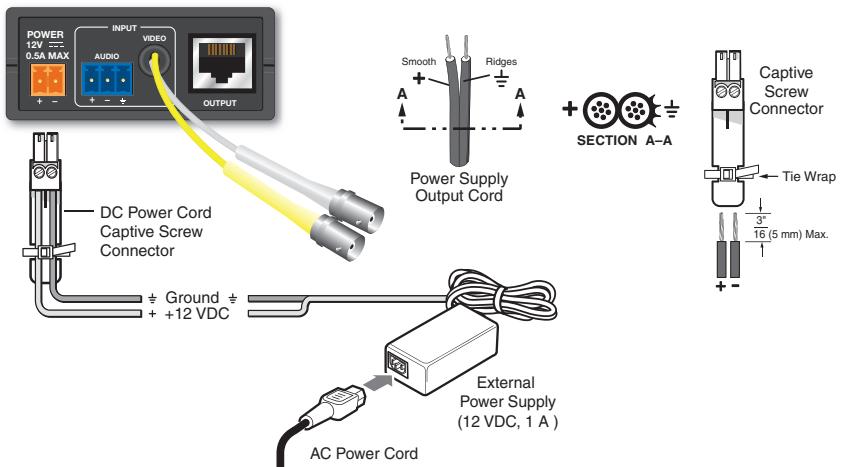


Figure 3. Power Supply Wiring

CAUTION: Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the TLP VIM.

Extron power supplies are certified to UL/CSA 60950-1 and are classified as LPS (limited power source). Use of a non-LPS or unlisted power supply will void all regulatory compliance certification.

Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron A/V processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium or desk.

The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 75, and the Canadian Electrical Code, part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.

- ③ **Audio input** – One 3-pole captive screw connector for inputting balanced or unbalanced audio. The audio input is mono only and either balanced or unbalanced.

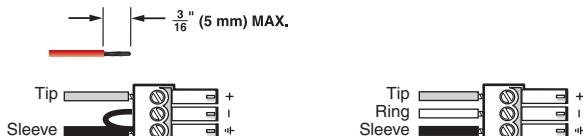


Figure 4. Audio Input Connector Wiring

④ Video input – Two female BNC connectors on pigtails used to input either S-video (yellow-chroma, white-luma) or composite video (white only).

For composite input, connect the composite cable to the white video input cable.

For S-video input connect the luma cable to the white video input and the chroma cable to the yellow video input.

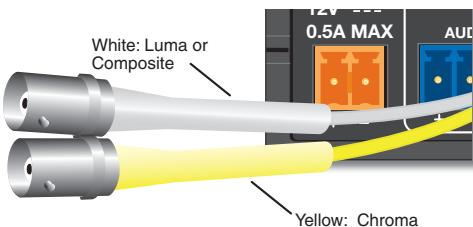


Figure 5. Video Inputs

⑤ MTP output – One female RJ-45 connector to output the MTP A/V signal to the touchpanel.

The TP cable connecting the TLP VIM output to the MTP input of the touchpanel is standard UTP or STP Cat 5 or better cable. The ends may be terminated using either TIA/EIA 568A or TIA/EIA 568B but both ends must use the same standard.



Pin	T568A Wire Color	T568B Wire Color	MTP Signal Composite	MTP Signal S-video
1	White-green	White-orange	Reserved	Chroma+
2	Green	Orange	Reserved	Chroma-
3	White-orange	White-green	Mono audio+	Mono audio+
4	Blue	Blue	Video+	Luma+
5	White-blue	White-blue	Video-	Luma-
6	Orange	Green	Mono audio-	Mono audio-
7	White-brown	White-brown	Reserved	Reserved
8	Brown	Brown	Reserved	Reserved

NOTE: When using Enhanced Skew-Free™ A/V cable, use the TIA/EIA T568A standard only.

CAUTION: The TLP VIM output uses higher voltages than a LAN. Inputting those voltages on a LAN communications port may damage the connection.

Operation

No setup or configuration is required. Once cabling is complete, apply power to the connected equipment and TLP VIM. The unit is ready for operation.

Reference Information

Included Parts

Description	Part Number
TLP VIM	60-1168-01
12 VDC, 1 A power supply	28-071-57LF
3-pole blue 3.5 mm male captive screw connector	10-703-11LF
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Optional Accessories

Enhanced Skew-Free™ A/V UTP Cable	Part Number
Skew-Free UTP/3, 3 ft (90 cm)	26-569-01
Skew-Free UTP/6, 6 ft (1.8 m)	26-569-02
Skew-Free UTP/12, 12 ft (3.6 m)	26-569-03
Skew-Free UTP/1000, non-plenum, 1000 ft (300 m)	22-141-03
Skew-Free UTP-P/1000, plenum, 1000 ft (300 m)	22-142-03

Specifications

Video

Gain.....	Unity
Differential phase error.....	<1.0° at 3.58 MHz and 4.43 MHz
Differential gain error	<1.0% at 3.58 MHz and 4.43 MHz

Video input

Number/signal type	1 S-video or composite video
Connectors	2 female BNC on pigtails
Nominal level	1 Vp-p for Y of S-video and for composite video 0.3 Vp-p for C of S-video
Minimum/maximum levels.....	0.3 V to 1.5 Vp-p with no offset
Impedance	75 ohms
Return loss	<-30 dB, DC @ 10 MHz
DC offset (max. allowable)	100 mV

Video output

Number/signal type	1 set of proprietary analog signals
Connector.....	1 female RJ-45
Nominal level	1 V p-p for Y of S-video and for composite video 0.3 V p-p for C of S-video
Minimum/maximum levels.....	0.3 V to 1.5 Vp-p
Impedance	75 ohms
Return loss	<-35 dB @ 5 MHz

Sync

Standards.....	NTSC 3.58, NTSC 4.43, PAL, SECAM
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Audio

Gain.....	0 dB (unity)
Frequency response	20 Hz to 20 kHz, ±0.25 dB
THD + Noise.....	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N.....	>90 dB, balanced at maximum output (unweighted)
CMRR	>34 dB @ 20 Hz to 20 kHz

Audio input

Number/signal type	1 mono, balanced or unbalanced
Connector.....	(1) 3.5 mm captive screw connector, 3 pole
Impedance	>10k ohms unbalanced, >20k ohms balanced, AC coupled
Nominal level	-10 dBV (0.32 Vrms)
Maximum level.....	>+2.4 dBu (balanced or unbalanced) at 1%THD+N

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV \approx 2 dBu

Audio output

Number/signal type	1 set of proprietary analog signals
Connector.....	1 female RJ-45
Impedance	50 ohms unbalanced, 100 ohms balanced
Maximum level (Hi-Z).....	>+3.3 dBu, balanced or unbalanced at 1%THD+N
Maximum level (600 ohm).....	>+2.0 dBm, balanced or unbalanced at 1%THD+N

General

Recommended cable type	CAT5/5e/6 (shielded or unshielded)
External power supply	Input: 100 VAC to 240 VAC, 50-60 Hz, external power supply Output: 12 VDC, 1.0 A, regulated
Power input requirements	12 VDC, 0.5 A max.
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents
Mounting.....	Tabletop
Enclosure type.....	Plastic
Enclosure dimensions	1.0" H x 2.4" W x 2.3" D (2.5 cm H x 6.1 cm W x 5.8 cm D) (Depth excludes pigtail connectors.)
Product weight.....	0.2 lbs (0.1 kg)
Shipping weight.....	1 lb (1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance	
Safety	CE, c-UL, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE: All nominal levels are at $\pm 10\%$.

Extron® Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:

Extron Electronics
1001 East Ball Road
Anaheim, CA 92805
U.S.A.

Japan:

Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

Europe, Africa, and the Middle East:

Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:

Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Asia:

Extron Asia
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Middle East:

Extron Middle East
Dubai Airport Free Zone
F12, PO Box 293666
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an application engineer to receive an RA (return authorization) number. This will begin the repair process.

USA: (714) 491-1500

Asia: 65.6383.4400

Europe: 31.33.453.4040

Japan: 81.3.3511.7655

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

Extron USA - West - Headquarters	Extron USA - East	Extron Europe	Extron Asia	Extron Japan	Extron China	Extron Middle East
+800.633.9876 Inside USA/Canada Only	+800.633.9876 Inside USA/Canada Only	+800.3987.6673 Inside Europe Only	+800.7339.8766 Inside Asia Only	+81.3.3511.7655 +81.3.3511.7656 FAX	+400.883.1568 Inside China Only	+971.4.2991800 +971.4.2991880 FAX
+1.714.491.1500 +1.714.491.1517 FAX	+1.919.863.1794 +1.919.863.1797 FAX	+31.33.453.4040 +31.33.453.4050 FAX	+65.6383.4400 +65.6383.4664 FAX		+86.21.3760.1568 +86.21.3760.1566 FAX	